TRADE Raypa®

R.ESPINAR, S.L.

QMS-Quality Management Systems
REGISTERED FIRM
ISO 9001
EN ISO 9001
Nº Reg.: ESP 2429

INSTRUCTION MANUAL
FOR USE AND MAINTENANCE

BACTERIOLOGICAL AND CULTURE INCUBATORS

"INCUTERM"

Models:

ID-20
ID-40
ID-50
ID-90
ID-150
ID-288

⚠ **It is very important to keep these instructions with the apparatus in case of doubt of use.**

If this apparatus should be sold or transferred, ensure that this manual is given to the new owner, for correct use and understanding of the apparatus.

This manual has been written for safety reasons, read the instructions carefully before installing and use of this apparatus.

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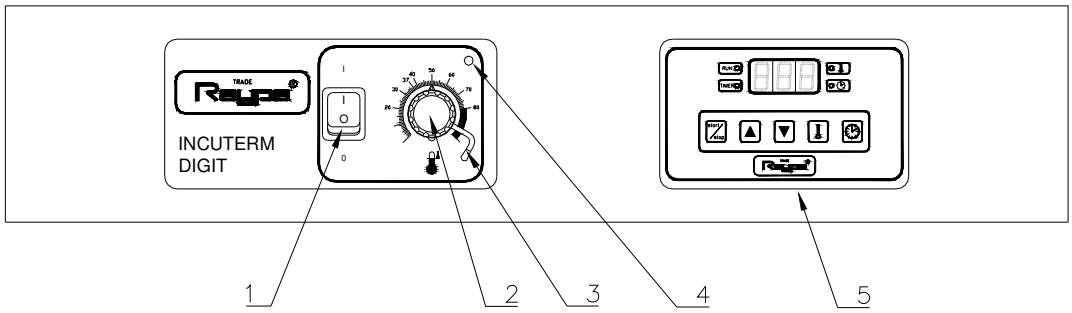
DESCRIPTION

Control Panel



1. Main switch. When switching it on (I) it activates all the circuits of the oven.
2. Safety thermostat. Hydraulic safety thermostat class 3.1 (it assumes the functions of temperature control in the case of failure of the main regulator)
3. Thermostat handle immobilizing device. Turning it clockwise, immobilizes the thermostat handle to avoid involuntary displacements. Turning it anti-clockwise unblocks the thermostat handle, allowing to turn freely the button.
4. Safety thermostat pilot-light. It lights when the Safety Thermostat works.
5. Temperature and time microprocessor's controller (see specific instructions for its use)

TECHNICAL SPECIFICATIONS

Apparatus:	Bacteriological and culture oven.
Temperature range:	from +5°C to 80°C
Temperature homogeneity:	± 2 %
Temperature stability:	± 0,2 %
Feeding voltage:	115-230 V (according to characteristics plate)
Net frequency:	50/60 Hz
Order error:	± 2% at work temperature
Resolution:	0,1 ºC

Modelo	ID-20	ID-40	ID-50	ID-90	ID-150	ID-288
W	160	260	260	400	500	1000

CHARACTERISTICS

- Inside frame, double-chamber and inner door in stainless steel AISI 304/DIN 1.4301.
- Outside frame oven-painted with epoxi resin.
- Elastic joint of silicone.
- Perforated trays in stainless steel AISI 304/DIN 1.4301, height adjustable, with a device to remove the trays without overturning them.
- Interior VIDUR glass door with magnetic shutting.
- Adjustable ventilation device.
- Digital temperature control and reading by microprocessor.
- Heating by large surface heating elements placed at independent chamber, that allows an optimum temperature stabilization.

ACCESSORIES

Accessories that must be installed in the factory:

Ref.	Description
BE-20	Stainless steel perforated tray AISI 304. Can be used up to 5 units in ovens ID-20.
BE-40	Stainless steel perforated tray AISI 304. Can be used up to 7 trays in ovens ID-40.
BE-50	Stainless steel perforated tray AISI 304. Can be used up to 6 trays in ovens ID-50.
BE-90	Stainless steel perforated tray AISI 304. Can be used up to 9 trays in ovens ID-90.
BE-150	Stainless steel perforated tray AISI 304. Can be used up to 9 trays in ovens ID-150.

BE-288 Stainless steel perforated tray AISI 304. Can be used up to 14 trays in ovens ID-288.

⚠ INSTALLATION

Place the oven on a solid surface.

Don't install the oven in areas where there is danger of fire or explosion.

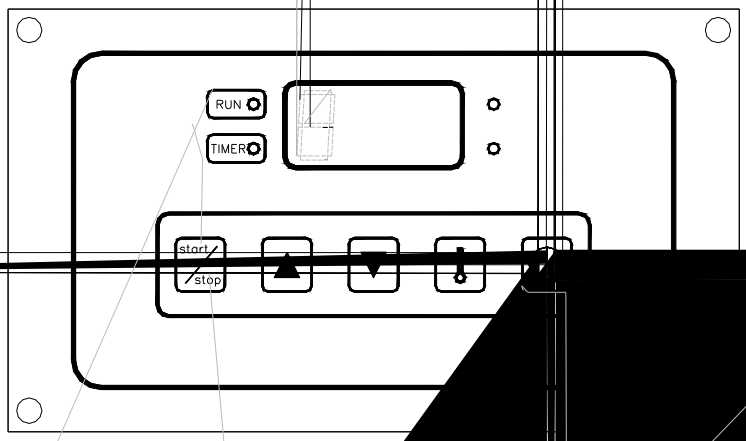
The oven is not fire-proof, for this reason it is not appropriate for drying, evaporating, baking enamel or similar substances, which contain solvents, that could burn or explode.

CONNECTION TO THE MAINS

There is the characteristics plate situated at the rear, indicating the voltage and power. Check to make sure that your electrical installations have the same conditions.

The plug of the oven is a SCHUKO with central and lateral connection, for security reasons the oven must be installed to ground.

MICROPROCESSOR'S DESCRIPTION



6.- "START/STOP" KEY: key to start or to stop the execution program. It is, also, to leave the edition of the orders or variables of configuration without keeping the modified value.

7.- UP KEY: key to increase the values of the variables of edition and configuration.

8.- DOWN KEY: key to decrease the values of the variables of edition and configuration.

9.- THERMOMETER KEY: key to enter in the edition of the order of temperature and configuration parameters.

10.- CLOCK KEY: key to enter in the edition of the waiting time and execution and to edit the configuration parameters.

FUNCTION TYPES

The equipment can work in four different types:

1st NORMAL TYPE: the equipment will work only with a temperature maintenance and during an indefinite time.

2nd DELAYED STARTING TYPE: work temperature and delay in the connection of the equipment to execute the selected program, can be programmed, and it will be executed automatically after passing the delayed time programmed.

3rd MAINTENANCE OF THE PROGRAMMED TEMPERATURE TIME TYPE: a time can be programmed maintain the programmed temperature during this programmed time. After passing it, the equipment stops.

4th WAITING TIME, MAINTAINING TIME AND TEMPERATURE PROGRAMMED TYPE: a waiting time can be programmed when switching on, a work temperature, a maintenance of programmed temperature time and stop the equipment.

Whichever of these types can be programmed by interest of the user.

FUNCTIONING TYPE EDITION

The main switch (1) of the equipment must be activated and the temperature's control off (RUN pilot put out) to edit the selected values of temperature, waiting time and maintenance of temperature time. To put out the RUN pilot press the "START/STOP" key along one second.

Order temperature's programming: press the thermometer key to enter in the edition of the temperature's order. The pilot "thermometer" will light up intermittently and in the display will appear the selected value. To modify it, press the "UP" and "DOWN" keys until the wanted value in grades appear. The edition boundaries depend on the scale depth. If the order value has been modified, it will appear twinkling. To keep the modified value we will press again the thermometer key and we will go back to the initial situation. If we want to leave the order edition without keeping the modified value we will press the clock key, the start/stop key or we will let pass 10 seconds time.

Delayed starting time programming: press the clock key twice in a row to enter in the waiting time edition. The timer pilot will light up intermittently and in the display will appear the programmed value. To modify it, press the UP and DOW_N keys until the wanted value will appear.

The boundaries of edition are compressed between 0,00 and 99,5 hours. If its value has been modified, it will appear twinkling. To keep the modified value we will press the clock key once again and we will go back to the initial situation. To leave the edition without keeping the modified value, we will press the thermometer key, the "START/STOP" key or we will let pass 10 seconds time.

Maintenance time programming: press the clock key once to enter in the maintenance time edition. The clock pilot will light up intermittently and in the display will appear the programmed value. It works as the "Delayed starting time programming". But its edition boundaries are compressed between OFF, 0.00 and 99.5 hours. If the selected value is OFF the regulation will be done for an indefinite time and it will stop only if we stop the regulation pressing the start key.

When the control is on, the RUN pilot lighted, if we press the thermometer key the temperature order programmed will be showed. If the value is modified and kept it will only be operative during this execution because when finishing the execution the regulator recovers the order value programmed when the program was not on.
If the control is on, RUN pilot lighted, and at this moment the control is executing the waiting time, at pressing twice the clock key the remaining waiting time value will be visualised. If the clock key is pressed only once, the maintaining time programmed will be visualised. But if the control is executing the maintaining time, the waiting time will not be visualised. If any of these two values is modified and kept, it will only be operative during this execution because at finishing it the regulator recovers the value programmed when the program was not on.

START UP INSTRUCTIONS

Connect the oven to the mains.
Press the main switch (1) and it will light up. After passing some seconds the microprocessor's display will indicate the equipment's temperature.
If a working temperature, waiting time or maintenance temperature time has been programmed, press the "START/STOP" key along 1 second and the RUN pilot will light up starting the programmed cycle.
Once the temperature is reached, the thermometer pilot will make some light up/light down cycles, keeping the programmed temperature.
If a delayed starting time has been programmed, while being executed the waiting time, the TIMER pilot will be lighted up. At finishing the time, the TIMER pilot and the controller will put down and the regulation will start to bring the temperature to the programmed order.
If a maintaining time has been programmed, when the temperature reaches the programmed value, the red pilot will light up and the maintaining time will start to countdown. Once it has past, the regulation will stop and the RUN and clock pilots will put out.
If a maintaining time OFF has been programmed, the clock pilot will remain, always, on.

To stop the regulation manually, we will do the same as for the starting; we will press along 1 second the “START/STOP” key.

NOTE: in the first starting it is possible that the temperature overtakes in some grades the ordered temperature. After some time, the temperature will decrease; once stabilised, proceed to load the oven procuring to have the door closed the maximum possible time.
If in the control system exists an order error of 2% at working temperature, increase the order in the same value as the value of the error detected, because the real temperature of the oven is the one indicated in the microprocessor’s display.
For example, if a temperature of 37ºC has been programmed and, once the temperature has stabilised, it remains in 36,7ºC, increase the order to 37,3ºC and, thus, the real temperature will be 37ºC indicated in the display.

SHUT DOWN

Put the main switch (1) to the O position.

SAFETY THERMOSTAT

Temperature’s adjustment of the shooting of the safety thermostat.
1.-Displace the safety thermostat’s handle 10ºC above the working temperature.
2.- Start up the oven with the door open, switching on the main switch.
3.- Turn slowly the safety thermostat’s handle anti-clockwise when the temperature is stabilised in the prefixed temperature, until the characteristic acoustic sound is heard and the red pilot lights up.

After that, turn slowly the button clockwise, keeping the rearm button pressed until the red pilot puts out. Thus, the safety thermostat remains fixed in 1 or 2 ºC above the working temperature.

Always when working at different temperatures the same operation must be realised.

⚠ LOAD DISTRIBUTION

To use correctly the machine and for a homogeneous temperature distribution, it is essential to keep in the inside of the oven a good air ventilation.
Therefore, the object put in the oven must be placed leaving some space for the air circulation.
Do not put any load over the oven's floor, at least over the first tray.
Do not place any load too close to the roof or walls of the oven, put it at least at 3 cm distance.

CLEANING

Cleaning regularly the oven keeps the equipment in good conditions of use.
The residuum in the oven must be cleaned, they can change oven functions.
The frame and the inner door may be cleaned with any stainless steel cleaning product.
The outside of the frame can be cleaned with polishing liquids with silicone.
Some products or the steam that they produce can cause corrosive spots inside the oven. If that happens the oven must be immediately cleaned and polished.

⚠ REPARATION AND SPARE PARTS

Before any reparation disconnect the apparatus from the mains.

Please get in touch with your distributor if in doubt.

For safety reasons and a good function of the apparatus use original spare parts only.

If spare parts are needed state the serial number and the model of the apparatus, indicated on the characteristic plate at the rear of the apparatus.

⚠ GUARANTEES

This equipment is guaranteed for a year, against any manufacturing failure or faulty piece. The guarantee doesn't cover damages produced by improper uses or by alien causes to R. Espinar, S.L.

Any manipulation done by personnel non-authorized by means of R. Espinar, S.L. automatically cancels this guarantee.

The guarantee and claims are excluded if these instructions are not followed.
R. Espinar S.L. reserves all right to change technical specifications.

DECLARATION OF CONFORMITY "CE"

The manufacturer: **R. Espinar,S.L.**

Declares under its own responsibility that the apparatus :

Culture and Biological Ovens "INCUTERM"

Models: **ID-20, ID-40, ID-50, ID-90, ID-150 and ID-288**

It fulfils with the directives of security:

73/23 CEE "Low tension"

89/336 CEE "Electromagnetic Compatibility"

Beyond International Rules:

EN-61010-1

EN-61010-2-010

EN-50081-2

EN-50082-1

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